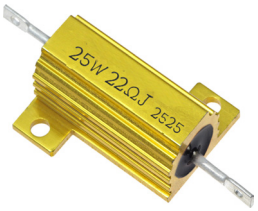
Power Dissipiation Mount Fixed Resistor



RoHS Compliant

Type	Power Rating	Resistance tolerance	Nominal Resistance
MCPDMT	25W	F=±1% and J=±5%	0.01Ω ~ 25KΩ

Ratings:

Type	PDMT	
Rated Power at 25°C	25 W	
Max. Working Voltage	550 V	
Dielectric Withstanding Voltage	1,000 V	
Rated Ambient Temp.	25°C	
Operating Temp. Range	-55°C --- +275°C	
Tolerance	1%	5%
Resistance Range	0.1Ω ~ 22KΩ	0.01Ω ~ 25KΩ
Highest Ohmic Valu	22KΩ	25KΩ

Power rating:
Resistors shall have a power rating based on continuous full load operation at ambient temperature of 25°C.

Voltage rating:
Resistors shall have a rated direct-current (DC) continuous working voltage or an approximate sine-wave root-mean-square (RMS) alternating-current (AC) continuous working voltage at commercial- line frequency and waveform corresponding to the power rating , as determined from the following formula:

RCWV = $\sqrt{P \times R}$

Note : Max. Working Voltage or $\sqrt{P \times R}$ whichever is lesser

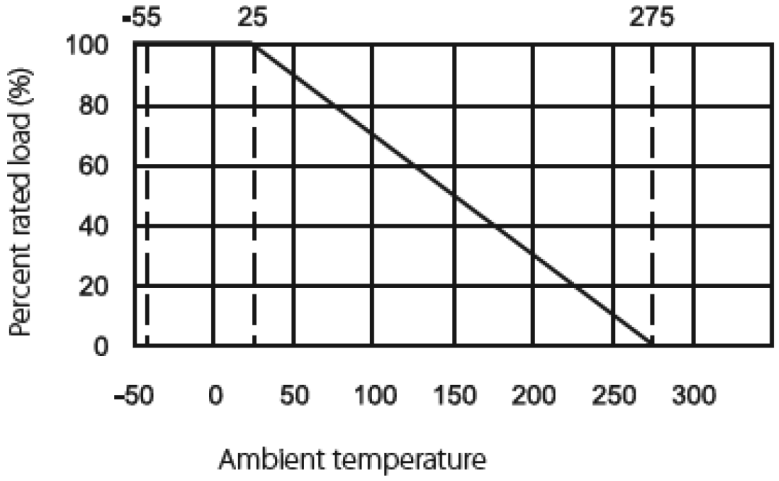
Max. Overload Voltage or 2.5 $\sqrt{P \times R}$ whichever is lesser

Where : RCWV = Rated DC or RMS AC continuous working voltage at commercial-line frequency and waveform (volt)

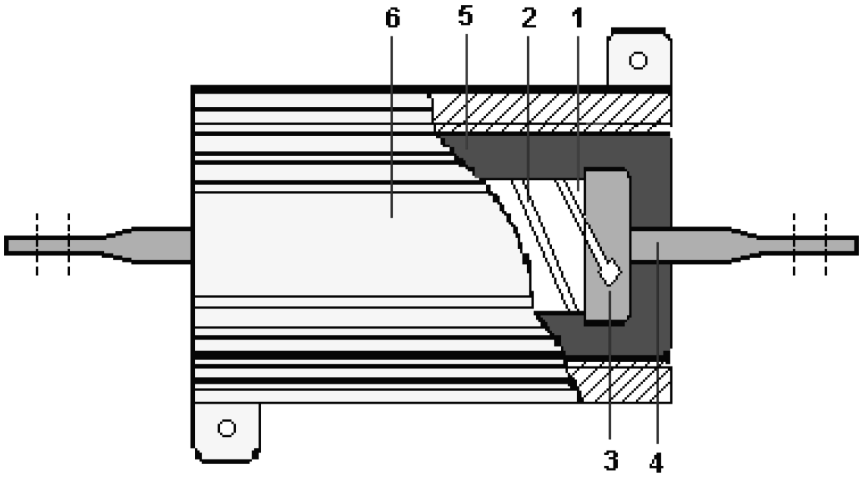
P = Power Rating (watt)

R = Nominal Resistance (ohm)

Derating Curve



Construction



Confirmation List of Material

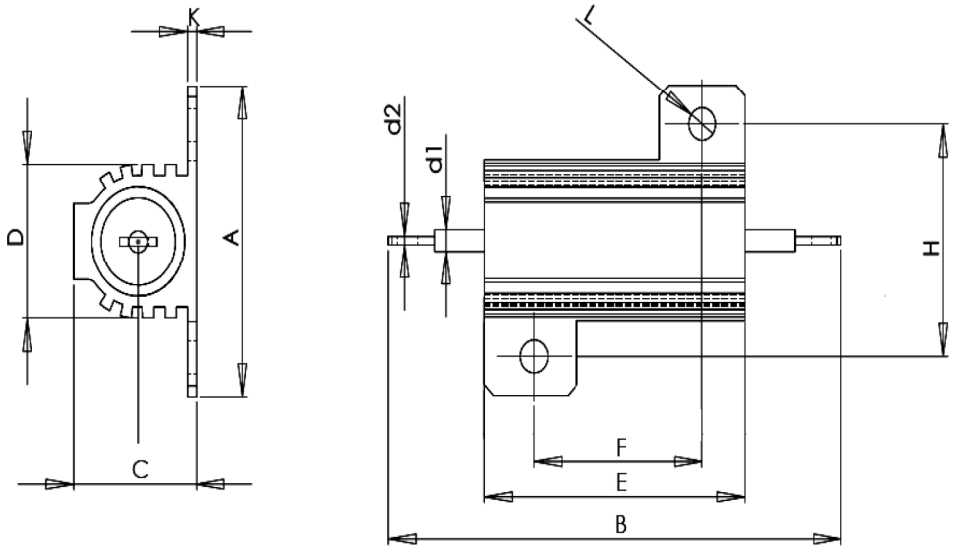
No.	Material Generic Name
1	Ceramic Rod
2	Resistance Wire
3	Cap
4	Terminal Lead
5	Plastic Molding Compound
6	Aluminium Shell

Performance specification

Characteristics	Limits	Test Methods (JIS C 5201-1, MIL 18546)
Dielectric withstanding voltage	± (0.2 % + 0.05 Ω) ΔR	Tested at AC potential respectively for 1 min. (MIL 18546)
Temperature coefficient	<0.04Ω : ± 1600 PPM/°C 0.04Ω - 0.065Ω : ± 450 PPM/v 0.068Ω - 0.091Ω : ± 200 PPM/°C 0.1Ω - 22Ω : ± 100 PPM/°C >23Ω : ± 180 PPM/°C	4.8 Natural resistance change per temp. degree centigrade. $\frac{R2-R1}{R1(t2-t1)} \times 10^6$ (PPM/°C) R1: Resistance value at room temperature (t1) R2: Resistance value at room temp. plus 100°C (t2) (JIS C 5201-1)
Short time overload	± (0.5 % + 0.05 Ω) ΔR	5 x rated power for 5 s (MIL 18546)
Terminal strength	± (0.2 % + 0.05 Ω) ΔR	30 sec, 10 pound pull test torque test - applicable for screw threads (MIL 18546)
Temperature	± (0.5 % + 0.05 Ω) ΔR	250°C for 2 h
Vibration High Frequency	± (0.2 % + 0.05 Ω) ΔR	Frequency varied 10 Hz to 2000 Hz, 20 g peak, 2 directions 6 h each (MIL 18546)
Solderability	95 % coverage Min.	4.17 The area covered with a new, smooth, clean, shiny and continuous surface free from concentrated pinholes. Test temp. of solder : 245°C ± 3°C Dwell time in solder : 2 ~ 3 seconds (JIS C 5201-1)
Resistance to soldering heat	Resistance change rate is ± (1% + 0.05Ω) Max. with no evidence of mechanical damage	4.18 Permanent resistance change when leads immersed to 2.0 - 2.5 mm from the body in 260°C ± 5°C solder for 10 ± 1 seconds (JIS C 5201-1)
Temperature cycling	Resistance change rate is ± (5% + 0.05Ω) Max.	4.19 Resistance change after continuous 100 cycles for duty shown below: Step / Temperature / Time 1 / -55°C ± 3°C / 30 mins 2 / Room temp. / 10 to15 mins 3 / +155°C ± 2°C / 30 mins 4 / Room temp. / 10 to 15 mins
Humidity (Steady state)	Resistance change rate is ± (3% + 0.05Ω) Max. with no evidence of mechanical damage	4.24 Temporary resistance change after a 240 hours exposure in a humidity test chamber controlled at 40°C ± 2°C and 90 to 95% relative humidity. (JIS C 5201-1)

Characteristics	Limits	Test Methods (JIS C 5201-1, MIL 18546)
Load life	± (1.0 % + 0.05 Ω) ΔR	1000 h at rated power, +25 °C, 1.5 h “ON”, 0.5 h “OFF” (JIS C 5201-1)
Load life in humidity	Resistance change rate is ± (5% + 0.05Ω) Max. with no evidence of mechanical damage	4.24.2.1 Resistance change after 1,000 hours operating at RCWV with duty cycle of (1.5 hours “on”, 0.5 hour “off”) in a humidity test chamber controlled at 40°C ± 2°C and 90 to 95 % relative humidity. (JIS C 5201-1)

Dimension



Type	A±1	B±1.5	C±1	D±1	E±1	F±0.5	H±0.5	K max	L±0.5	d1 ±0.1	d2 ±0.5
MCPDMT25W	27	49	14	13.5	28	18	19	3.2	4	2	0.8

Part Number Table

Description	Part Number
Power Resistor, 25W, 5%, B/B, 82R	MCPDMT25J0820B00
Power Resistor, 25W, 5%, B/B, 470R	MCPDMT25J0471B00
Power Resistor, 25W, 1%, B/B, 1K	MCPDMT25F1001B00
Power Resistor, 25W, 1%, B/B, 27R	MCPDMT25F270JB00
Power Resistor, 25W, 1%, B/B, 120R	MCPDMT25F1200B00
Power Resistor, 25W, 1%, B/B, 25R	MCPDMT25F250JB00
Power Resistor, 25W, 1%, B/B, 5R	MCPDMT25F500KB00
Power Resistor, 25W, 1%, B/B, 1R	MCPDMT25F100KB00
Power Resistor, 25W, 5%, B/B, 10R	MCPDMT25J0100B00
Power Resistor, 25W, 1%, B/B, 7.5R	MCPDMT25F750KB00
Power Resistor, 25W, 5%, B/B, 22R	MCPDMT25J0220B00
Power Resistor, 25W, 1%, B/B, 10R	MCPDMT25F100JB00
Power Resistor, 25W, 1%, B/B, 200R	MCPDMT25F2000B00
Power Resistor, 25W, 1%, B/B, 100R	MCPDMT25F1000B00
Power Resistor, 25W, 1%, B/B, 150R	MCPDMT25F1500B00
Power Resistor, 25W, 1%, B/B, 2.2R	MCPDMT25F220KB00
Power Resistor, 25W, 5%, B/B, 15K	MCPDMT25J0153B00
Power Resistor, 25W, 5%, B/B, 1R	MCPDMT25J010JB00
Power Resistor, 25W, 1%, B/B, 10K	MCPDMT25F1002B00
Power Resistor, 25W, 1%, B/B, 50R	MCPDMT25F500JB00
Power Resistor, 25W, 5%, B/B, 15R	MCPDMT25J0150B00
Power Resistor, 25W, 1%, B/B, 4R	MCPDMT25F400KB00
Power Resistor, 25W, 5%, B/B, 56R	MCPDMT25J0560B00
Power Resistor, 25W, 5%, B/B, 100R	MCPDMT25J0101B00
Power Resistor, 25W, 5%, B/B, 50R	MCPDMT25J0500B00
Power Resistor, 25W, 5%, B/B, 220R	MCPDMT25J0221B00
Power Resistor, 25W, 1%, B/B, 30R	MCPDMT25F300JB00
Power Resistor, 25W, 5%, B/B, 4.7R	MCPDMT25J047JB00
Power Resistor, 25W, 5%, B/B, 2R	MCPDMT25J020JB00
Power Resistor, 25W, 5%, B/B, 5R	MCPDMT25J050JB00
Power Resistor, 25W, 5%, B/B, 33R	MCPDMT25J0330B00
Power Resistor, 25W, 5%, B/B, 1K	MCPDMT25J0102B00
Power Resistor, 25W, 5%, B/B, 150R	MCPDMT25J0151B00
Power Resistor, 25W, 5%, B/B, 47R	MCPDMT25J0470B00
Power Resistor, 25W, 5%, B/B, 4.7K	MCPDMT25J0472B00